

PROBING THE 1896 ST. AUGUSTINE CARCASS

Editor's Note: Over the last few decades, there has been increased interest in “globsters,” or beached rotting carcasses that are sometimes suggested to be the remains of undescribed sea creatures. As scientists have developed better techniques for genetic identification, attempts to examine unidentified remains have produced interesting results. The carcass that has probably gotten the most attention over the years was discovered on the beach at St. Augustine, Florida, in 1896. Biologist A. E. Verrill described it as a new giant octopus (*Octopus giganteus*), though he withdrew that suggested identity in favor of a beached cetacean. Modern scientific analysis of preserved St. Augustine material began with the investigations of Wood and Gennaro (1971), and continued with Mackal (1986). They suggested that the samples were consistent with a cephalopod. In more recent analyses of this and other globsters (Carr et al 2002; Pierce et al 1995; Pierce et al 2004), other investigators have concluded that these, even when they have octopus-like appearances, are likely the remains of decomposing whales. Should we settle for this? I would suggest that good science continues to probe wherever questions remain, even if they are small nagging questions that others would prefer to ignore.

In cryptozoology, even a final determination that an alleged species does not actually exist is a good result, unlike the strawman argument popular in fluff skepticism that all cryptozoology investigators are “believers” and are only out to prove that

“monsters exist.” Proper investigation follows all trails as far as possible, to acquire physical evidence that can be evaluated with the technology at hand and attempt to determine if an alleged species does or does not exist. In this case, we have testable physical evidence that has produced mixed results, but most recently has been suggested to be cetacean. If this is a valid theory, then further testing of the physical evidence should be encouraged in order to confirm or disconfirm it. As it happens, additional testing of the material has been ongoing as genetic techniques advanced. The following summary provides some information on this testing. Nelson Jecas still has a small amount of material remaining, and there is further work that will be done on it. One of the primary issues has been that there is both authentic and contaminating DNA, as the samples were literally rescued out of the garbage, which is where the rodent DNA apparently came from. Deterioration of the authentic DNA is an additional issue. Hopefully, future work at retrieving and identifying the authentic DNA will provide a solid answer one way or the other for the St. Augustine carcass.

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COLLABORATION HISTORY OF NELSON JECAS AND
RENEE FRATPIETRO, REPRESENTING THE PALEO-DNA LABORATORY

In 2006 Dr. Roy Mackal contacted the Paleo-DNA Laboratory requesting analysis of a sample from an 1896 carcass, more specifically, species identification of the sample. At this time, Dr. Mackal informed us that Nelson Jecas was to be involved in the project as well. Two small samples (12M 11/5/79 and 2M) were sent to the lab for analysis. Four sets of universal primers in the mitochondrial DNA region were used on the samples. The regions tested included multiple areas of the cytochrome B and 16s. One small sequence from the 16s, region classified phylogenetically in the Class of Mammalia, grouping closely to whales was retrieved amongst the contamination of human, mouse and other species, but no positive identification could be established.

For the next two years Mrs. Fratpietro and Mr. Jecas remained in contact discussing many projects and ideas. In 2008 Dr. Mackal found a new sample from the same 1896 carcass (149380) and more analysis was requested in conjunction with Mr. Jecas and Mr. Gary Mangiacopra. Again, multiple regions of the mitochondrial DNA were attempted revealing only contamination. Amplified products were then successfully cloned in attempt to separate any contamination from authentic DNA but this sample seemed highly contaminated and no authentic DNA could be retrieved. Again no positive identification could be established.

Again for the next few years Mrs. Fratpietro and Mr. Jecas remained in contact discussing many projects and ideas. In 2010 another sample (2010) was sent for analysis. Leftover samples from the three previous attempts (149380, 2M, and 12M) were also re-tested using some new extraction and purification techniques. Five different universal regions including cytochrome B, 16s 12s, 28s and COT were tested as well as a new cephalopoda specific region. With this cephalopoda specific region, avoiding the contamination present in the sample looked promising. Unfortunately, no DNA was detected using the cephalopoda-specific primer set and two of the other six regions that amplified DNA were determined to be

contamination. So do these results reveal that there is no cephalopoda DNA present in the sample, therefore not from the class cephalopoda, is there just no viable cephalopoda DNA left or is this something completely different? A new plan of attack is needed.

Currently, in 2011, a new plan has been devised and an attempt will be made on yet another new sample (2011) and the previous samples (2010, 149380 and 12M) to solve the species identification mystery of the 1896 carcass. This time, cetacea specific primers and cephalopoda specific primers will be trialed. All the samples listed above were re-extracted and amplified using the cephalopoda and cetacean specific primers. In multiple attempts, the cephalopoda region did not amplify whereas the cetacean region did, some single bands and some double bands. The single bands that were sequenced revealed that the cetacean specific primers still amplified some contaminating DNA and no authentic DNA was retrieved. It was then decided to clone the double bands in attempt to separate the contamination from the authentic DNA. Still, all sequences were contaminating DNA. As of yet, the identification of the 1896 carcass is still a mystery, but we have not given up yet. New plans are in the works to continue the quest for an identity.